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ABSTRACT

Social facilitation as a self-presentational display, and social performance impairment attributable to perceived public failure, are examined in a study of context effects in verbal learning. Female undergraduates (N=72) served as subjects with one male who served as an "audience." Performance data indicate that, consistent with the present analysis (but not with drive theories of social facilitation), the learning of simple paired-associate items is socially impaired when those items are embedded within a difficult task. An observer's presence does not impair complex verbal learning when complex items appear within an easy task. Questionnaire responses suggest a naturally-occurring confound between task complexity and perceived failure. (Author)

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Social Facilitation as Self-Presentation

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Social Facilitation as Self-Presentation

The influence of the presence of others upon individual behavior is a classic topic in social psychology, studied extensively in the early 1900's (Dashiell, 1935). Contemporary interest in the topic derives from Robert Zajonc's theoretical formulation (1965), which states that the presence of others acts as a source of generalized drive (Spence, 1956): energizing the dominant response tendency to the exclusion of competing tendencies. Despite difficulties in establishing response dominance independently of others' presence (Rajecki, Kidd, and Ivins, 1976), this drive theory of social facilitation has received considerable support in the research literature it inspired (Geen and Gange, 1977)--particularly from the many studies documenting a tendency for others' presence to facilitate the performance of simple tasks (i.e., tasks on which the correct response is dominant) and to impair the performance of complex tasks (i.e., ones on which an incorrect response is dominant).

Much of this literature may be reinterpretted, however, from an alternative to drive theory. Following Cottrell (1972), this alternative begins by acknowledging the prevalence of socially-mediated reinforcement and punishment, attributing the influence of others' presence to the potential that presence gives them for evaluation. But drive theorists appear to ignore that the object of evaluation is the behavior others' presence is shown to influence. Because a favorable evaluation can be secured or an unfavorable one avoided by competent performance, the mechanism underlying social effects is no generalized drive--blind to the link between behavior and evaluation.

Rather, others' presence sensitizes performers to the evaluative implications of behavior--motivating attempts to control, and reactions to, public self-image. This analysis incorporates Cooley's notion of the looking-glass self: a situated self-esteem following from the esteem for self attributed to immediately present others. From this perspective, superior task performance in others' presence represents an esteem-maintaining exhibition, analogous to strategic self-description (Jones, 1964); socially-impaired performance reflects embarrassment following perceived public failure (Modigliani, 1971). Inferred evaluation is the critical determinant of social effects on performance. Facilitation will be found whenever performers have been assigned a task they conclude they are executing competently. Such tasks are known, by social facilitation researchers, as simple tasks: those on which even the less successful performances are predominantly correct. But this social comparison data is unavailable to the performers themselves--who sense, in on-going feedback, only an uninterrupted mastery of the task assigned. Social performance impairment will be found whenever performance feedback implies failure, whenever performers observe (as they do on a complex task) that a high proportion of their responses are incorrect. Therefore, the "dominance" of the correct response will influence the direction of social effects only insofar as it conveys information about the performer's task competence.

This paper contrasts this self-presentational analysis (Goffman, 1967) with drive theory, in a study of context effects in social facilitation. Two paired-associate verbal tasks are employed: a predominantly simple task

that includes a few complex items, and a predominantly complex task that includes a few simple items. According to drive theory, the presence of other should energize each dominant response. Hence, simple paired-associate items should be socially facilitated, and complex items should be socially impaired--even if both simple and complex items appear in the same learning task (Lee, 1961). In the self-presentational analysis, however, social effects depend upon inferred evaluation. If failure is inferred when on-going performance feedback is predominantly negative, individuals should experience embarrassment from public performance of predominantly difficult (i.e., error-producing) tasks. Hence, on such task, the presence of others should impair the learning of both complex and simple items. Conversely, if individuals infer no failure from their performance of predominantly easy tasks, the learning of items embedded within such task should not be socially impaired--regardless of item complexity. To enhance public self-image, in fact, individuals might be expected to display superior easy-task performance on both simple and complex items. In sum, drive theory predicts item-specific social effects in the present experiment, depending on item complexity. The self-presentational analysis predicts task-wide social effects, depending on aggregate task difficulty. A post-performance questionnaire is included to test for the hypothesized relationship between task difficulty and perceived failure.

Method

The subjects were 75 female undergraduates drawn from the Duke University subject pool. Three of these subjects were discarded: two for suspicion,

one for failure to follow instructions. An equal number of the remaining subjects were randomly assigned to each experimental cell.

The Verbal Lists

Verbal items having low pre-experimental association were chosen for inclusion in a paired-associate learning task. The verbal stimuli were nonsense syllables having a mean association value of 27% (Archer, 1960). The responses were adjectives selected from a non-competitional list used in drive research (Spence, Farber, & McFann, 1956). Stimuli were paired with responses to generate the three lists appearing in Table I. The lists were used in a transfer paradigm: each subject received training on either List A or List B, then all subjects learned the common transfer list. As shown in the table, the 13 transfer pairs comprised three sublists: one consisting of pairs unchanged from both training lists (Simple pairs); one consisting of pairs with training-list response terms interchanged (Complex pairs); and one consisting of pairs unchanged from Training List A, but changed from Training List B (Context pairs). Context pairs were intended to render the transfer task either predominantly easy (following List A) or predominantly difficult (following List B). The experimenter projected the lists at a 2:2 rate from a Kodak carousal projector positioned in a room adjoining the subject's. Two random orders of each lists were used. Subjects responded verbally, and these responses were monitored over laboratory intercom.

Procedure

Subjects were run individually. Upon meeting the subject, the experi-

menter mentioned that someone had wanted to watch the experiment; however, since the observer had not arrived, they would begin without him. After receiving standard paired-associate instructions, the subject was left alone to learn one of the two training lists, to a criterion of 7 (of the 13) correct responses. As soon as that criterion had been reached, the experimenter entered the subject's room, explaining that the subject would be learning a second list momentarily--once the experimenter had checked to see if the observer had arrived. Having checked, the experimenter told half the subjects that since the observer had still not arrived, they would finish the experiment without him. These subjects remained alone throughout transfer learning. For the other half of the subjects, the experimenter returned with a male undergraduate who apologized for being late. This observer was seated in full view of the projection screen, where he sat quietly throughout transfer learning. Returning to the projection room, the experimenter presented one exposure and ten anticipation trails on the transfer list. After responding to a post-performance questionnaire while alone, the subject was debriefed.

Results

List I Learning

A 2 x 2 analysis of variance was conducted on the number of trials required to reach the 7/13 criterion on the first list, with Training List and Audience as factors. This analysis revealed no significant effects (largest $F = 1.05$). Thus, the training lists do not appear to differ in difficulty, and subjects assigned to different experimental conditions appear equivalent in initial verbal learning abilities. Mean trials-to-criterion in the four condi-

tions were: List A/Alone = 6.28, List A/Audience = 6.83, List B/Alone = 5.78, List B/Audience = 6.83.

Transfer Learning

A valid test of the present hypotheses presumes that: a) the transfer task was more difficult following training on List B than after training on List A; and b) that the correct response was dominant on Simple transfer pairs and subordinate on Complex transfer pairs. Support for the first assumption derives from an analysis on the total number of correct responses offered during the 10 transfer trials. As expected, more correct transfer responses were given after training on List A than List B (a mean of 98.78 right after List A, 71.08 right after List B; $F(1, 68) = 37.78$, $p < .0001$). Relevant to the second assumption, Pair Complexity had a strong main effect on the percentage of correct responses during transfer learning (76.39% of responses to Simple pairs correct, 51.16% of responses to Complex pairs correct; $F(1, 68) = 93.97$, $p < .00001$). Thus, the transfer performance data suggest that Task Difficulty and Pair Complexity have been successfully manipulated.

Given successful manipulations, interest turns to the Simple and Complex transfer data appearing in Table II. In lieu of a standard analysis of variance, planned comparisons were devised to test hypotheses of interest. A first comparison tests for the statistical interaction evident in earlier social facilitation research by contrasting the observer's effect upon learning for Simple pairs embedded within the easy task and Complex pairs embedded within the different task. This interaction is significant, $F(1, 68) = 5.75$, $p < .025$), indicating strong social impairment of Complex Pair/Difficult task learning,

$F(1, 68) = 9.35$, $p < .005$) but no social effect on Simple Pair/Easy task learning ($F < 1$). More relevant to present theoretical interests, even Simple pairs are learned more slowly in the observer's presence--when they are embedded within a difficult list, $F(1, 68) = 9.15$, $p < .005$); and Complex pair learning is unaffected by the observer's presence--when those pairs are embedded within an easy task ($F < 1$).

A drive interpretation of these data might still be offered, however, if it could be shown that aggregate task difficulty influences response complexity--rendering the correct response to all pairs embedded within the difficult task subordinate and the correct response to all pairs in the easy task dominant. This modified drive interpretation receives some corroboration from a near reliable Task Difficulty main effect on Simple and Complex transfer learning ($.05 < p < .10$). However, Simple Pairs embedded within the difficult task evoke a higher percentage of correct responses than Complex pairs embedded within the Easy task (69.7% vs. 51.1% correct; $F(1, 68) = 15.42$, $p < .001$), yet the observer impairs learning of the former and has no effect on learning of the latter. Hence these social performance effects remain inexplicable from drive theory even if correct response dominance is inferred backward from the observed data.

Questionnaire Responses

The questionnaire responses appearing in Table III reveal self-evaluative reactions consistent with the self-presentational analysis. As expected, task difficulty influences perceived failure. Thus, relative to subjects assigned the easy transfer task, those assigned the difficult task: reported doing less

well on the second list ($F(1, 68) = 11.3$, $p < .002$); and tended to designate a higher percentage of other undergraduates as capable of learning the second list faster than they ($F(1, 67) = 3.62$, $p < .07$). Affective reactions to perceived failure may be inferred from responses indicating that, relative to subjects with the easy transfer task, those with the difficult task: enjoyed the experiment less ($F(1, 68) = 6.11$, $p < .02$) and deprecated the learning tasks, saying that they provided a less accurate measure of general abilities ($F(1, 67) = 10.64$, $p < .002$). Derogation of the difficult task was particularly evident when performance was observed, producing an Audience x Task Difficulty interaction on judged task accuracy ($F(1, 67) = 6.02$, $p < .05$). Thus, subjects report failing the difficult task and display defensive reactions, particularly when performance is observed.

Items relevant to the drive theory of social facilitation were also included on the questionnaire. If drive is conceived as felt nervousness, subjects might be expected to report more tension after performing before the observer. However, no Audience effect on self-reported tension is evident here ($F < 1$).

Baron, Moore, and Sanders (1978) theorize that drive results from observer-induced distraction. Yet the observer has no apparent effect on attention in the present experiment ($F < 1$ for each of five separate items: self-reported attention on the task; self-reported attention off the task; and three measures of incidental recall).

Discussion

In appropriate conditions, the present study replicates earlier social facilitation results. An observer's presence does impair complex verbal

learning, when (as in social drive research) that learning occurs within a predominantly difficult task. Also typical of earlier results (Cottrell, Rittle, & Wack, 1967; Criddle, 1971), the observer has a much weaker (in fact, statistically unreliable) main effect on the learning of simple verbal items embedded within a predominantly easy list. These data corroborate presumed conceptual equivalences between the present transfer paradigm (adapted from Lee, 1961) and the traditional drive acquisition paradigm.

The theoretical interests of this study, however, are addressed by experimental reversals of context: embedding simple items within a difficult task and complex items within an easy task. Results from these critical conditions favor the self-presentational analysis, an analysis attributing social effects to inferred evaluation (manipulable by aggregate task difficulty) rather than to response dominance (operationalized as item complexity). Consistent with the self-presentational analysis (but contrary to drive theory), even simple verbal learning is socially impaired when embedded in a difficult task. Also favoring an embarrassment interpretation of social inhibition, audience-induced impairment of complex learning is entirely neutralized by embedding the complex learning within an easy task. The present analysis does, however, require modification (as would drive theory) to account for the weakness of social effects on easy task performance.

Like results in the study of manifest anxiety (Weiner, 1966), the present questionnaire data suggest that subjects ordinarily perceive failure on the complex tasks of drive research. However, contrary to a recent suggestion (Baron, Moore, & Sanders, 1978), an observer's presence need not be

distracting to influence performance. In light of these results, future studies of social facilitation would be well-advised to monitor cognitive and affective reactions to task performance. Further research from the self-presentational perspective will be needed to clarify the role of perceived failure in social performance impairment.

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Table I

The Verbal Lists

Training List A	Training List B	Transfer List	(Sublist)
BIQ-THOROUGH	BIQ-THOROUGH	BIQ-THOROUGH	
CEH-NOMAD	CEH-NOMAD	CEH-NOMAD	(Simple)
PUJ-REMOTE	PUJ-REMOTE	PUJ-REMOTE	
KEZ-VACANT	KEZ-VACANT	KEZ-ARCTIC	
QOM-CRAZY	QOM-CRAZY	QOM-VACANT	(Complex)
VIW-ARCTIC	VIW-ARCTIC	VIW-CRAZY	
GIK-DEVOUT	GIK-QUIET	GIK-DEVOUT	
LEQ-MINUTE	LEQ-HEADSTRONG	LEQ-MINUTE	
MAF-QUIET	MAF-OVERSIZE	MAF-QUIET	
NUX-OVERSIZE	NUX-DEVOUT	NUX-OVERSIZE	(Context)
WUG-HEADSTRONG	WUG-PRESSING	WUG-HEADSTRONG	
XAR-SKILLFUL	XAR-MINUTE	XAR-SKILLFUL	
ZOT-PRESSING	ZOT-SKILLFUL	ZOT-PRESSING	

Table II

Transfer Learning:

Mean Number of Correct Responses Per Item

		Simple Items	Complex Items
Easy Task	ALONE	8.33	5.04
	AUDIENCE	8.28	5.19
Difficult Task	ALONE	7.83	6.26
	AUDIENCE	6.11	3.98

Note: N = 18. The maximum number of correct responses per transfer item is 10.

Table III

Mean Questionnaire Responses

	Experimental Condition			
	Easy Task		Difficult Task	
Questionnaire Item[1]	Alone	Audience	Alone	Audience
Self-reported success	5.17	5.22	4.44	3.78
Percentage of undergraduates capable of faster learning	44.2%	40.8%	44.9%	56.5%
Enjoyment	5.44	5.44	4.94	4.05
Task accuracy	4.39	5.28	4.17	3.70
Tension	4.44	3.78	4.05	4.22
Attention on task	5.22	6.00	5.83	5.44
Attention off task	3.39	2.72	2.78	3.38

[1]With the exception of item 2, all responses are measured on seven-point scales. High numbers represent greater success, enjoyment, task accuracy, tension, attention on task (item 6), and attention off task (item 7).